Study: Global value chains and the productivity of Canadian manufacturing firms, 2002 to 2006

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Becoming part of a global value chain (GVC) enhances the productivity of firms, often as a result of technological improvements.

GVCs are associated with the development of a finer division of labour and specialization across nations. Increasingly, Canadian manufacturers are being vertically integrated into GVCs—importing intermediate inputs to produce goods that are later exported. GVC status is defined as engaging in both importing and exporting.

A new research paper, "Global Value Chains and the Productivity of Canadian Manufacturing Firms," examines whether the integration of Canadian manufacturing firms into a GVC improves their productivity. It focuses on the extent to which productivity growth differs between those that are part of a GVC and those that are not. It analyzes plant-level data from the Canadian manufacturing sector between 2002 and 2006.

Certain firms self-select to join GVCs. The 28% of Canadian manufacturing firms that participated in GVCs during the 2002 to 2006 period were more productive and larger and paid higher wages than others before they became GVC firms. GVC starters also became more productive after joining GVCs, and this better performance cumulated over time. In contrast, GVC stoppers suffered a loss in productivity in both the short- and long-run.

While GVCs were more prevalent in high technology, research and development and capital goods industries, the benefits of GVC participation extended across many industries.

The magnitude and timing of the effects of GVC status vary by the method used to become a GVC.

While Canada's trade with low-wage countries has been increasing, high-wage countries remain the major source of imported intermediates and the major destination for exports. Productivity growth was higher for GVC firms that imported intermediates from and exported products to these high-wage countries. This is consistent with the hypothesis that both exports and imports provide a channel of technology diffusion, as trade with high-wage countries contributes to technological and managerial sophistication. Along with the finding that productivity gains for new GVCs are the greatest in the technology sector, this bolsters the inference that a major source of benefit of a GVC comes from technology transfer.

Firms that ceased being GVCs by terminating imports from low-wage countries suffered the greatest loss in productivity. This suggests that a separate benefit of GVC status can be found in cost-savings. However, this is primarily restricted to entities that trade with those countries where potential cost savings are the highest because of large differences in wage levels.

Note to readers

Data for this study came from the Annual Survey of Manufactures and Logging as well as the Importer Register and Exporter Register developed at Statistics Canada.

The research paper "Global Value Chains and the Productivity of Canadian Manufacturing Firms," part of the *Economic Analysis Research Paper Series* (11F0027M), is now available from the *Browse by key resource* module of our website under *Publications*.

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